



THE COMMUNICATOR SURREY AMATEUR RADIO CLUB



Volume II

May 2009

Issue XXXIV

VE7SAR

VE7RSC

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VICE PRESIDENT - John Brodie VA7XB

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SARC
Surrey Amateur Radio Club

**ALWAYS MONITOR 147.36+ (110.9)
OR 443.775+ (110.9 in and out) IRLP 1463**

CLUB NET @ 8:00 P.M. Tuesday 147.36+ (110.9)

Thursday 144.250 USB 7:30 P.M.

CLUB MAILING ADDRESS : 239 -7156 121 St. Surrey, B.C. V3W 0J6

The next meeting of the Surrey Amateur Radio Club will be held on Wednesday June 3rd 2009 at the Provincial Regional Emergency Operations Center (PREOC) located at 14275 96th Avenue Surrey V3T 4M5 - Enter off 96th Talk in on 147.36+ (110.9) 443.775+ (110.9)

Minutes for May 6, 2009 SAR Club meeting

1. Meeting was called to order at 7:30 pm April 1, 2009. 19 people were in attendance at the Surrey PREOC building. Welcome to our guest speaker, Tom Robson VE7DID.

2. A brief introduction of Amel Krdzalic previously E74AW now living in BC was made. Amel made a brief presentation on BCRadioSport, a group doing

Radio Orienteering and Amateur Radio Direction Finding. An invitation to participate in these events was extended to the Surrey Club. They plan on meeting 2x a month on Saturdays. More information is available at bcradio-sport@gmail.com.

3. Fred Orsetti gave a brief status report for SEPAR. The SEPAR Society name was resubmitted after a conflict was resolved. A final discussion on the constitution for SEPAR is up coming by

SEPAR members. Once this is finalized a lottery grant application will be submitted.

4. Tom Robson's presentation discussed Outpost software. He also touched on Airmail, and PacLink discussing the differences. A live demonstration and PowerPoint presentation was enjoyed by those in attendance.

5. Club Update. Recent changes in the executive. John Brodie (Vice President) will stand in until elections in June. No major changes or expenses are expected during this time.

6. Bill Gipps spoke to the membership about the proposed Memorandum of Understanding between SARC and SEPAR. A copy of this was circulated to those in attendance for questions, discussion and suggestions for any amendments. A motion was made by Wayne VE7HM to circulate the draft document with any amendments requested by SEPAR to the entire membership by email before the June meeting where a vote will take place. This was seconded by Anton VE7SSD. Motion was passed. Bill Gipps was thanked for his help facilitating the discussions and the creation of this document.

7. Field Day. Anton spoke to the club about the field day plans which are well in progress. A request for a food organizer was made. Contact Anton about this.

Fred Orsetti has offered to teach logging to anyone interested before field day. Contact him.

8. Financial Report:

HSBC	\$1577.00
ING	\$3448.00
Total	\$5025.00

Recent expenses included a donation in memory of Lloyd, church hall rental for the ham class, RAC insurance, trailer insurance, Field Day costs to Surrey Parks for the site, and cordless mike for the PA system.

John has been doing a reconciliation of the books after stepping due to the passing of the Treasurer Lloyd VE7JLH.

Message from VP VA7XB



Two major events finish up the year's activities at SARC – the Annual General Meeting on June 3rd and Field Day on June 27 &

28th. The AGM is, of course, when we all decide who will form the next Executive to lead us through the next 12 months. This past year has been very busy with a number of significant

achievements, not least of which is increased membership to something close to 80. My message in the April Communicator reiterated some of these accomplishments under the leadership of Mike VE7AT. The AGM is the time to consider what you want this club to be, and what role you personally will take in shaping its future. Do you wish the club to continue on its present course or would you like to see a

change in direction? Workshops, technical presentations, construction projects, contesting, coaching of beginners, CW classes, advanced classes, field trips, DXpeditions, etc. - less of some and more of others? These and many other questions need to be reviewed and leaders sought who will take us in directions the membership wishes to go. Whether or not you agree with the decisions of the current Executive and Directors, the club cannot prosper and grow without active participation from its members. The problem is still the same old one that has dogged this organization and others like it – too few doing the work for many. So I hope you will think carefully about how you can contribute to a better Club by running for one of the available positions on the Executive or Board of Directors. Don't just gripe and complain – do something about it. If you have not already had a telephone call from the nomination committee, you may receive one soon. Nominations will also be taken from the floor.

The AGM agenda has not been finalized, but will likely include the following....

- Repeater Committee Report – our plan to upgrade 2m and 440 repeaters (see below)
- Vote on the Letter of Understanding between SEPAR and SARC (circulated to the membership on May 9th)
- Annual Financial Statement
- Field Day planning report
- SEPAR report
- Discussion regarding future meeting venue
- Decision regarding continuation of net through summer months
- Election of Officers

The SARC repeater committee has been working on a Lottery Commission application to fund upgrading of our 2m and 440 MHz repeaters to be submitted

in the summer. This application is being prepared in close coordination with a parallel application by SEPAR for upgrading of its facilities. The objective of the combined effort is to enhance the overall capability of the two organizations to provide emergency communications during a disaster, a goal which is consistent with SARC's Constitution that says (in part) the Club's purpose is "to assist the Community in the event of an emergency or wherever communications may be required." Installation of modern VHF and UHF radio repeaters (both operating from the site provided by Surrey Fire Services), IRLP access on both VHF and UHF, and greater coverage (we hope) by relocation of the antennas higher on the existing tower are all components of SARC's proposal. Discussions with Surrey's telecom advisor regarding how to accomplish the objectives are progressing at a rapid pace and may necessitate that we move quickly to take advantage of events occurring over the next few weeks, in advance of any Lottery application. The membership will be apprised of urgent developments and may be asked on short notice to approved expenditure of Club funds in order to take advantage of a one-time opportunity.

Kjeld VE7GP on Field Day

Have you signed up for participating in 2009 Field day?

I hear that not to many have signed up yet. Anton is waiting to hear from you. Especially the new hams. I have seen the pictures in the newsletter, but unfortunately I haven't been at to many club meetings lately, because of other commitments. I would really like to encourage especially the new members of all ages to sign

up. You will enjoy Field Day , and it is lots of fun. Field day is not only for old members; it is a learning experience, especially for new hams. I hope you got your ham license, because you like to use it. I can promise you that you will be allowed to operate the radio, and if you are a bit nervous about the microphone, this is the place to learn, and nobody will be making fun of you if you make mistakes, and you will hear other hams of all ages participating. So especially the new hams come at field day and enjoy it.

I have been a member of the SARC for around 25 years, and been to most field days, except for a couple years where we went to Alaska with our Motor Home, and a few other times where I just could not change my schedule. I have also signed up for this year, but I am getting older now, and we need some younger hams to help with the heavy lifting cranking up towers etc., but our older group of hams will help with advice on how to put the antennas and other stuff together. Especially the young hams, if you have never seen how big some of these antennas are, here is your chance to see them on the ground, and to help put them together. I have also seen some really young people in the pictures, you may not be allowed to be going alone, so bring one of parents along, they may learn something to about ham radios.

Ham radio is not just for fun and a great Hobby, it could also be the only way to communicate in case of a real emergency. Many can not imagine that you have no electricity, no cell phone, no regular phone, and the ground is shaking under you from an earth creak. That is why we have to be prepared to set up all our equipment on an open field, and operate without any kind of power, except a generator and 12 volt batteries,

Here is your chance to see the "Grab and Go Kit" in action, and learn how to use it. It doesn't help to show up at a real emergency to

say " I like to Help" but you don't know how to operate the equipment, you learn that before the disaster strikes, not when it has already happened. The people that know how to use it don't have time to show you then.

When we go camping south in the winter time, with our Motor Home, I always have my radio with me, my vertical antenna mounted horizontally on top, and when we are stationary it takes only minutes to raise it vertically. In Arizona, we had an experience, when the earthquake struck Olympia Washington, and surrounding area. Some people in the campground could not get in touch with family, to find out if their house and family was OK. They asked me if I could, since they had seen my antenna. I was able to contact, over the radio, a local emergency station in Olympia, they found the family, and reported back to me with good news.

I hope to see you at Field Day 2009, please phone Anton. Not only new hams, but also other members.

73' VE7GP Kjeld Frederiksen

For sale

1. Kenwood TS 130 with matching power supply HF rig. good condition. \$350.
2. Icom 27A 2-meter rig. \$75.
3. Kenwood general coverage receiver. excellent condition. \$275.

Please call Mike Heritage, VE7CLE,
604-574-3523

For sale

Kenwood TS 440 AT with CW filters \$425
Call Fred Orsetti 604 531 2576

Tom Robson VE7DID and the use of Outpost digital messaging.



Tom's presentation on the use of Outpost software for messaging was very informative particularly in the area of emergency communications. The software is free and can be used to format NTS messages as well as just text messaging.

Setting up the software is very easy, says Tom, and once set up it becomes quite user friendly.

Tom was using the AGWPE Pro packet engine as a TNC emulator and it is an excellent interface between the computer and the radio says Tom



Editor's notes.

I downloaded the Outpost software and have been using it with AGWPE Pro to do testing from home. It appears that this software is simple to use and has a place in our SEPAR emergency communications tool box. I loaded it along with Paclink and used the two side by side, they both performed very well.

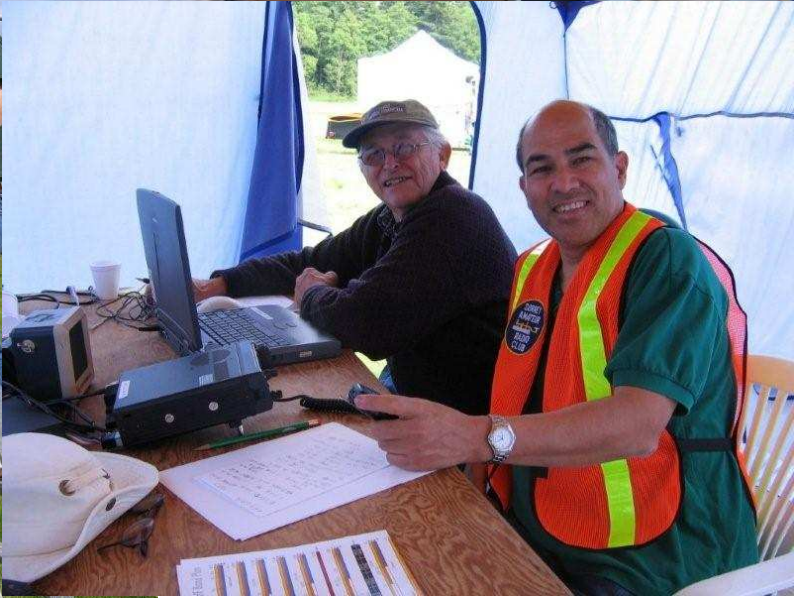
The one drawback to both Paclink and Outpost is that they do not do peer to peer communications well you need to have other hardware set up such as a RMS site or BBS site. Tom has restarted his BBS site and using this we should be able to do messaging between sites without the internet but however that is still in the testing stage.

These programs are very important to the emergency programs in B.C. in that they help to provide digital email type communications.

Our thanks to Tom for all the experimenting and hard work in setting up repeaters and BBS's for amateur use. Without these systems and hardware we would not have the robust communications network we enjoy.

Thanks Tom

Field Days Past



The ARRL/RAC Field Day event is the most attended amateur radio event of the year.

	2007	2006	2005	2004	2003	2002	2001	2000
Total Entries	2331	2199	2212	2241	2080	2110	2062	2054
Novice/GOTA	467	432	396	436	346	428	208	240
Participants	34,833	32,506	33,078	33,002	32,100	34,398	31,530	30,242

**SUPPORT YOUR CLUB AND YOUR
COMMUNITY PARTICIPATE IN FIELD DAY**





With Gary Skett, VE7AS

Aerial Adventures

Six metres....50.00 to 54.00 MHz. DX sits on or around 50.110, SSB around 50.125 and FM starts around 52.525 and up. Seldom used in this area, mainly because we have an active channel 2 transmitter on Mt. Seymour. A TV channel is a 6 MHz. wide chunk of bandwidth. The bottom edge of the over-the-air channel 2 is 54 MHz. and the upper edge is 60 MHz. Within this 6 MHz space is a video carrier, a color carrier, and an audio carrier.

The frequency of the video carrier is 1.25 MHz. above the lower edge, so for TV Channel 2 the video is at 55.25 MHz. The color carrier is approx. 3.58 MHz above the video carrier (N.B. not the lower edge), so for TV Channel 2 it is 58.83 MHz. The audio carrier is 4.5 MHz above the video carrier, so for TV Channel 2 it is 59.75 MHz. CBC Analogue puts out 100 Kilowatts of RF power; Their Digital signal runs 30.5 Kilowatts on digital channel 58 – changing to 43 in 2011.

If we are lucky, the analogue transmitter will be decommissioned within a couple of years, as CBC conforms to the new digital only on-air signals. This will be great news for HAMs all over the continent. We actually may be able to operate on 6 metres now with little or no TVI problems!

The 6-meter band is a portion of the VHF radio spectrum allocated to amateur radio use. Although located in the lower portion of the VHF band, it nonetheless occasionally displays propagation mechanisms characteristic of the HF bands. This normally occurs close to sunspot maximum, when solar activity increases ionization levels in the upper atmosphere. The prevalence of HF characteristics on this VHF band has inspired amateur operators to dub 6 meters the "magic band".

In the northern hemisphere, six meter activity peaks from May through early August, when regular sporadic E propagation enables long-distance contacts spanning up to 2,500 km for single-hop propagation. Multiple-hop sporadic E propagation allows intercontinental communications at distances of up to 10,000 km. In the southern hemisphere, sporadic E propagation is most common from November through early February.

6-meter frequency allocations for amateur radio are not universal worldwide. In the United States and Canada the band ranges from 50 to 54 MHz. In some other countries the band is restricted to military communications. Further, in some nations, the frequency range is used for television transmissions, although most countries have assigned those television channels to higher frequencies.

Over the past decade or so, the availability of transceivers that include the 6-meter band has increased greatly. Many commercial HF transceivers now include the 6-meter band, as do some handheld VHF/UHF transceivers. There are also a number of stand-alone 6-meter transceivers, although commercial production of these has been relatively rare in recent years. Despite support in more available radios, however, 6 meters does not share the popularity of amateur radio's 2-meter band. This is due, in large part, to the larger size of 6-meter antennas, power limitations in some countries outside North America, and the 6-meter band's greater susceptibility to local electrical interference and TVI issues.

As transceivers have become more available for the 6-meter band, it has quickly gained popularity. In many countries, including Canada, 6 meters is granted to entry-level [BASIC] license holders. Those without access to international HF frequencies often gain their first taste of true long-distance communications on the 6-meter band. Many of these operators develop a real affection for the challenge of the band, and often continue to devote much time to 6 meters, even when they gain access to the HF frequencies after upgrading their licences.

Although the International Telecommunications Union does not allocate 6 meter frequencies to amateurs in Europe; Due to the recent decline of VHF television broadcasts and commercial pressure on the lower VHF spectrum, most European countries have a 6 meter amateur allocation. A list showing the status of amateur radio allocation in the countries of ITU Region 1

In North America, especially in the United States and Canada, a special section of the lower part of the six meter band, 200 kHz in width, between 50.8 and 51 MHz, is reserved by general agreement among the amateur radio community in those two nations, to allow licensed amateurs to enjoy the hobby of safely operating radio-controlled aircraft and other types of radio-controlled hobby miniatures. The upper end of the band, starting at 53.00 MHz, and going upwards in 100 kHz steps to 53.80 MHz, used to be similarly allocated to RC modellers, but with the rise of amateur repeater stations on the 53 MHz section of the band in the USA, at the end of the 1970s and into the 1980s and into the 21st century, the move to the lower end of the six meter spectrum for radio-controlled model flying activities by licensed Hams was undertaken in North America. It is still completely legal, however, for ground-level RC model operation (cars, boats, etc.) to be accomplished on the 53 MHz band for suitably licensed amateur operators in North America.

In United Kingdom, it is legal to use 6 meters between frequencies 50 to 52 MHz, with some limitations at some frequencies. In UK, 50 to 51 MHz is primary usage and the rest is secondary with power limitations. A detailed band plan can be obtained from the RSGB website.

Now...for a quick and easily made antenna to get on 6 meters in less than 2 hours...not including the time it might take you to find and buy all the parts...Ok, maybe 3 hours...I should allow for time to let you stand back and admire each stage of the construction...as we Hams like to do...

Stage one, get parts from the hardware store... For this simple 6 metre dipole, I bought a ½" inch diameter anodized [chrome] aluminum shower rod – you will need 2 [two] 54 inch pieces. Why shower rod? It has 1/8" thick walls and it's anodized [chrome silver or gold] Gold anodizing looks cool, but is a bit too garish for our neighbourhood.... ☺



Then some PVC or ABS pipe – whichever is the stiffest, some T-fittings, threaded couplers, some E-6000 [or the newer UV6800] glue and some PVC or ABS glue. E6000 is a great self-levelling adhesive/sealer. Available at PlasticWorks in Surrey or Industrial Plastics in Langely. It does come in black and clear, but you can't buy black locally anymore; You would have to order that from the manufacturer in the USA.

I found my original diagram which is close enough to the design I ended up with, but used the aluminum tubing instead of fibreglass antennas, which are hard to find. [The diagram is at the end of this article] Next I started out with 54" lengths, and ended cutting 1 ½ inches off each end. I should have only cut 1" off as the last ½" didn't make much of a difference and would have saved me a third trip up to the peak of the roof!

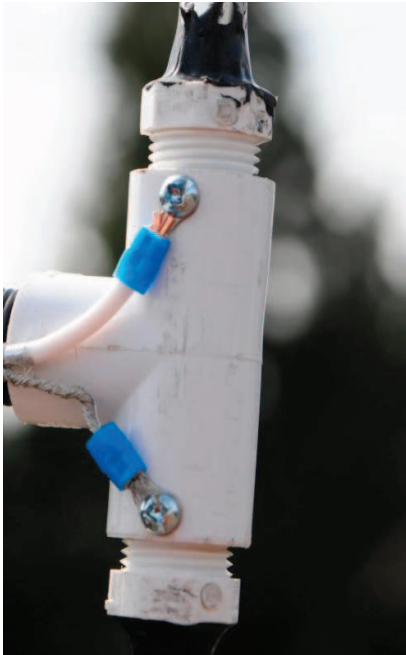
I started with a plastic mast mount, but at the last minute decided to make an aluminum bracket with U-bolts out of a piece of cast aluminum angle stock I had in my metal bin. You can pretty much use what material you wish as long as the dipole ends up at least 30 inches away from the mast and the diameter of that support piece is around 1" OD.



This picture on the left, was version 2 of the Mast to arm support, I chose to replace it with a stronger and easier to install aluminum angle bracket.

The photo on the right is the T-section with the two aluminum rods glued in place – not yet cut to resonant length. Again, start out at 54”

so that when it’s done and ready to test with your MiniVNA or antenna analyser, you have a bit to cut off...Far easier than starting too short and trying to add an inch or two!



Next, screw in the elements, and drill and tap the plastic and rod inside for either a #8-32 or #10-24 [or #10-32] machine screw. Stainless or brass hardware is good. After testing, you can seal this all up with splicing tape and a good electrical tape, like Scotch 33 or similar.

Next, you’ll need to wind your balun around the support mast. I used 12 turns to start. I ended up not having to adjust it – you might, depending on coil diameter and variations in building techniques and materials. Oh, the support plastic piece is not strong enough on its own, you will have to stuff a wood dowel inside. No metal here, or it won’t tune nicely for you!

I taped the coil in place to start, and then covered the whole end in splicing tape and another layer of Scotch 33. In a few days that will be one watertight glob of rubber...love that splicing tape!



The antenna is fed with 50 ohm LMR240 coax as my antenna is under 100 feet away from my transceiver. The coil was calculated based on the coax used, so if you use LMR400, you will most likely have to play with the number of coils to get the antenna impedance to match the cable.

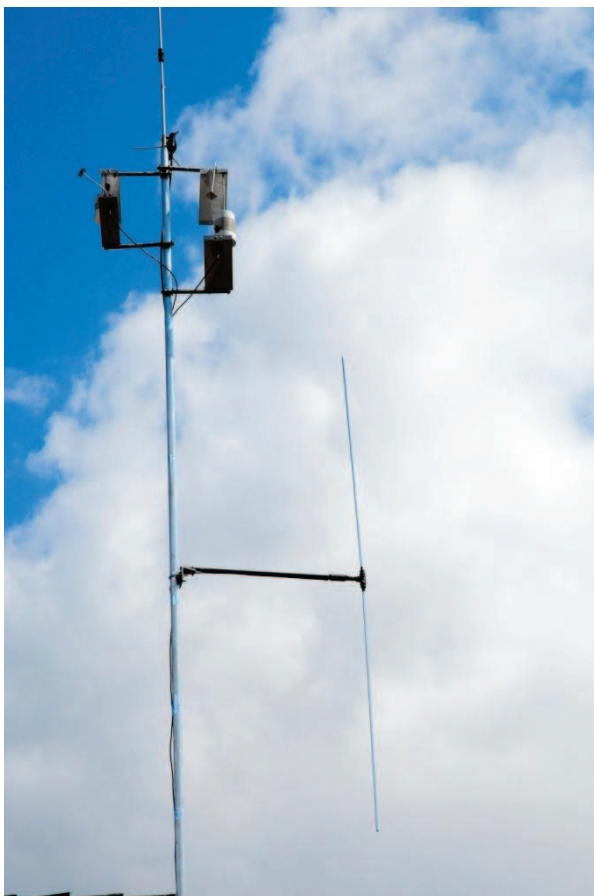
After the initial assembly and installation on my pole, I connected my BR200 analyser and measured a 1.2:1 SWR!!.....at 49.650 MHz... So a little bit too long.. Not much mind you, but a heck of a lot better than being too short. So, back up on to the roof, move the dipole ends in to reach them and I decided to cut off one inch off each dipole as a starting point....back down to the shack and it was 1.15:1 at 50.730 MHz. In the Ham band at the low end, but were I'd spend most of my time anyway. The 2:1 bandwidth points were 55MHz at the top



end and 47.200MHz. at the bottom...should I try another inch off? I debated and went up to the roof again to cut off another inch....but at the last minute only took off ½ inch off each end. It didn't do all that much, so I decided to leave it alone, since it had a 1.5:1 bandwidth from 48.390 to 52.230 and my tuner would take care of anything else. The resonate frequency was around 50.800, so that was fine with me. So the end length for the dipole rods was 52 ½ inches. If you want to work up in the FM portion, maybe 51 or 52 inches would work for you. And if



you use larger diameter rod, you may get a better bandwidth as well. Your useable bandwidth is usually measured from the 2:1 SWR points through the resonant frequency [the lowest “dip” in SWR] on both ends. For 50 MHz. and up, the 1.5:1 SWR points would be better. With a good coax, like LMR 240 or 400, the loss at 1.5:1 is not much of a concern.



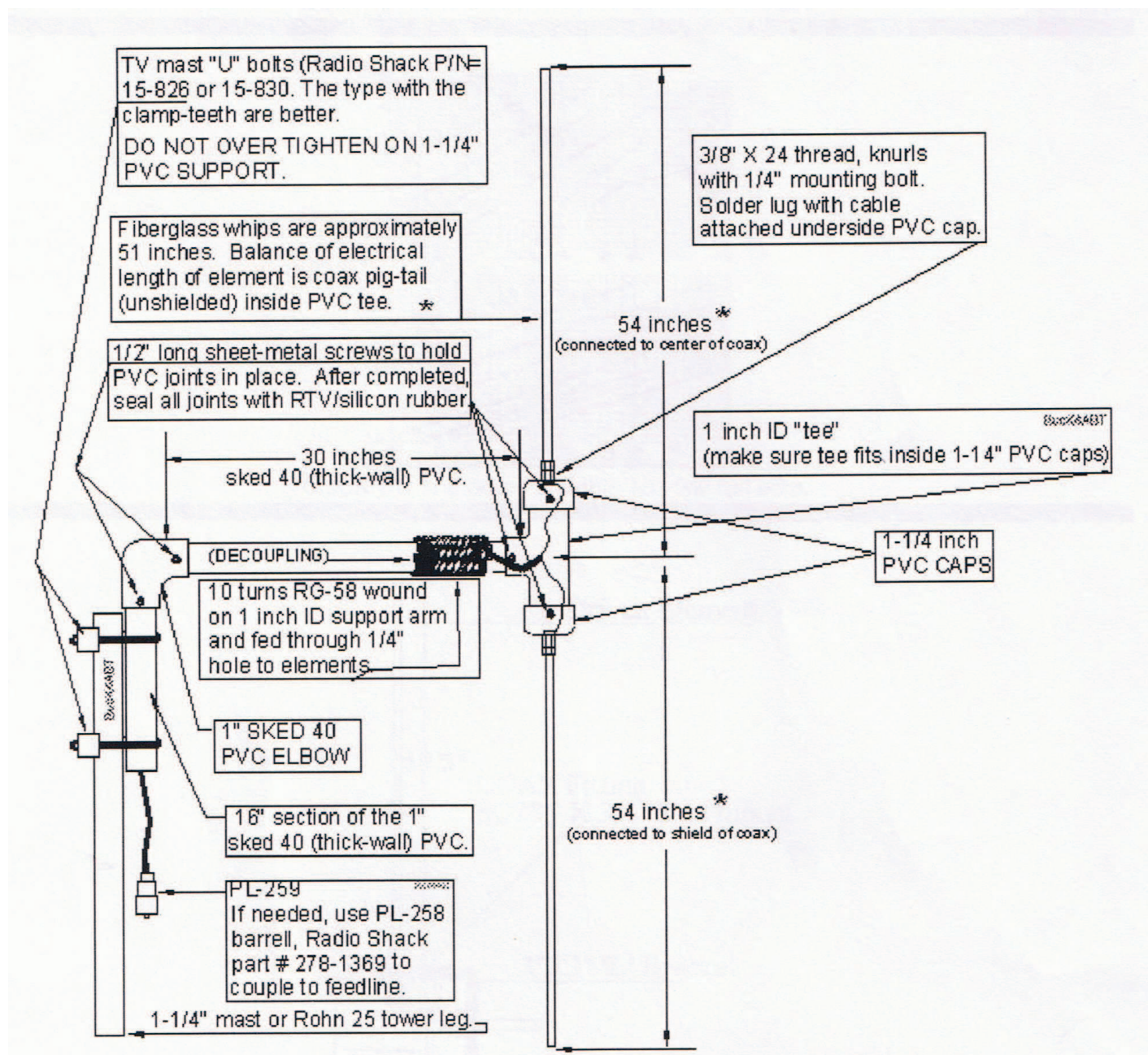
As you can see, the finished, tuned and matched dipole is a simple, good looking addition to your homebrew antenna farm. I chose vertical polarization in this case, as I intend on working someone [on simplex] moving to Hope. For DX or contests, I probably should change it to horizontal polarization...but I'll leave that for another experiment...If you want to try 6 out, most hang out on or around 50.110 to 50.125 SSB and 52.525 MHz. simplex or the VE7RSX 6m repeater on FM.

Next edition, Aerial Adventures explores the use of ½” copper adhesive tape [made by 3M] for clandestine antennas on HF, VHF and UHF.



Once sold for a mere \$19.95US for a 108 foot roll [in the 1980's], you can buy 54 foot rolls on-line today from Digikey for \$24.40US plus shipping and taxes...or try and find a local Canadian dealer in town....not! Ontario maybe...sigh. This strong and durable adhesive backed tape can be soldered, folded, cut with a scissors and painted. It will stick to walls, ceilings and glass too!

Join me next issue for Tapetenna Transmogrification!



There is at least one active 6 metre repeater on the air here in the PNW. It is VE7RSX just west of Victoria. Programme your receiver for 52.830 and transmit on 51.130.